



DEPARTMENT OF TRANSPORTATION

Federal Aviation Administration

14 CFR Part 39

[Docket No. FAA-2022-0153; Project Identifier MCAI-2021-01051-A; Amendment 39-22172; AD 2022-19-03]

RIN 2120-AA64

Airworthiness Directives; Pilatus Aircraft Ltd. Airplanes

AGENCY: Federal Aviation Administration (FAA), DOT.

ACTION: Final rule.

SUMMARY: The FAA is superseding Airworthiness Directive (AD) 2016-26-08, which applied to all Pilatus Aircraft Ltd. Model PC-12, PC-12/45, PC-12/47, and PC-12/47E airplanes. AD 2016-26-08 required incorporating revisions into the airworthiness limitations section (ALS) of the maintenance program and inspecting the main landing gear (MLG) attachment bolts for cracks and corrosion. Since the FAA issued AD 2016-26-08, the European Union Aviation Safety Agency (EASA) superseded its mandatory continuing airworthiness information (MCAI) to add a new life limit for certain MLG actuator bottom attachment bolts and then superseded it again to add new life limits for the rudder bellcrank. This AD requires incorporating new revisions to the ALS of the existing airplane maintenance manual (AMM) or Instructions for Continued Airworthiness (ICA) to establish a 5-year life limit for certain MLG actuator bottom attachment bolts and new life limits for the rudder bellcrank. The FAA is issuing this AD to address the unsafe condition on these products.

DATES: This AD is effective [INSERT DATE 35 DAYS AFTER DATE OF PUBLICATION IN THE FEDERAL REGISTER].

The Director of the Federal Register approved the incorporation by reference of certain publications listed in this AD as of [INSERT DATE 35 DAYS AFTER DATE OF PUBLICATION IN THE FEDERAL REGISTER].

ADDRESSES: For service information identified in this final rule, contact Pilatus

Aircraft Ltd., CH-6371, Stans, Switzerland; phone: +41848247365; email: techsupport.ch@pilatus-aircraft.com; website: pilatus-aircraft.com/. You may view this service information at the FAA, Airworthiness Products Section, Operational Safety Branch, 901 Locust, Kansas City, MO 64106. For information on the availability of this material at the FAA, call (817) 222-5110. It is also available at regulations.gov by searching for and locating Docket No. FAA-2022-0153.

Examining the AD Docket

You may examine the AD docket at regulations.gov by searching for and locating Docket No. FAA-2022-0153; or in person at Docket Operations between 9 a.m. and 5 p.m., Monday through Friday, except Federal holidays. The AD docket contains this final rule, the MCAI, any comments received, and other information. The address for Docket Operations is U.S. Department of Transportation, Docket Operations, M-30, West Building Ground Floor, Room W12-140, 1200 New Jersey Avenue SE, Washington, DC 20590.

FOR FURTHER INFORMATION CONTACT: Doug Rudolph, Aviation Safety Engineer, General Aviation & Rotorcraft Section, International Validation Branch, 901 Locust, Room 301, Kansas City, MO 64106; phone: (816) 329-4059; email: doug.rudolph@faa.gov.

SUPPLEMENTARY INFORMATION:

Background

The FAA issued a notice of proposed rulemaking (NPRM) to amend 14 CFR part 39 to supersede AD 2016-26-08, Amendment 39-18766 (82 FR 1172, January 5, 2017; corrected February 16, 2017, 82 FR 10859) (AD 2016-26-08). AD 2016-26-08 applied to all Pilatus Aircraft Ltd. (Pilatus) Model PC-12, PC-12/45, PC-12/47, and PC-12/47E airplanes. AD 2016-26-08 required incorporating revisions into the ALS of the existing FAA-approved maintenance program and inspecting the MLG attachment bolts for cracks and corrosion.

The NPRM published in the *Federal Register* on March 14, 2022 (87 FR 14187). The NPRM was prompted by reports of failure of MLG actuator bottom attachment bolts,

part number 532.10.12.218, identified with “VLG” on the bolt head. These parts are from a specific vendor and are subject to hydrogen embrittlement. Accordingly, EASA, which is the Technical Agent for the Member States of the European Union, superseded its prior AD on this condition and issued EASA AD 2021-0005, dated January 7, 2021, corrected January 14, 2021, to require a new 5-year life limit for the MLG actuator bottom attachment bolt identified with “VLG.” Pilatus subsequently added new life limits for the rudder bellcrank. As a result, EASA superseded its AD again and issued AD 2021-0214, dated September 17, 2021 (referred to after this as “the MCAI”). The MCAI states:

The airworthiness limitations and certification maintenance instructions for Pilatus PC-12 aeroplanes, which are approved by EASA, are currently defined and published in Pilatus PC-12 AMM Chapter 04-00-00. These instructions have been identified as mandatory for continued airworthiness.

Failure to accomplish these instructions could result in an unsafe condition.

Previously, EASA issued [EASA] AD 2021-0005, requiring the actions described in the Pilatus PC-12 AMM Chapter 04-00-00, Document Number 02049 Issue 01 Revision 40, Document Number 02300 Issue 01 Revision 24 and Document Number 02436 Issue 01 Revision 02.

Since that [EASA] AD was issued, Pilatus published the applicable ALS, as defined in this [EASA] AD, which contains new and/or more restrictive tasks and limitations, as specified in the Component Limitations section, to introduce a new life limit for the rudder bellcrank. Due to the introduction of this life limit, the repetitive eddy current inspections are no longer required and deleted from the Supplemental Structural Inspection section.

For the reason described above, this [EASA] AD retains the requirements of EASA AD 2021-0005, which is superseded, and requires accomplishment of the actions as specified in the applicable ALS.

You may examine the MCAI at [regulations.gov](https://www.regulations.gov) by searching for and locating Docket No. FAA-2022-0153.

In the NPRM, the FAA proposed to require incorporating new revisions to the ALS of the existing AMM or ICA to establish a 5-year life limit for certain MLG actuator

bottom attachment bolts and new life limits for the rudder bellcrank. The FAA is issuing this AD to prevent MLG collapse during all phases of airplane operations, including take-off and landing, and also to prevent rudder bellcrank failure, which could lead to loss of airplane control.

Discussion of Final Airworthiness Directive

Comments

The FAA received comments from four commenters. The commenters were the Air Line Pilots Association (ALPA), Pilatus, and two individuals. The following presents the comments received on the NPRM and the FAA's response to each comment.

ALPA supported the NPRM without change.

Requests Regarding the Service Information

Pilatus requested that the FAA change the proposed AD to reference the most recent AMM revisions, which were issued December 10, 2021. Pilatus stated that it updated the AMM, including the ALS, for editorial changes and that requiring incorporation of the later AMM revisions would not increase the public burden. An individual commenter requested the FAA change the proposed AD to allow operators to comply by incorporating later FAA-approved revisions of the ALS. The commenter stated that not including this statement restricts operators to using the ALS revision required by the AD, unless they obtain approval of an alternative method of compliance (AMOC).

The FAA partially agrees. The FAA agrees to allow incorporation of the latest revisions of the ALS, as requested by Pilatus, as an option for compliance with paragraph (f)(1) of this AD, and has updated this final rule accordingly. The FAA does not agree with allowing future revisions of the ALS as an option for compliance with paragraph (f)(1) of this AD. An AD may not refer to a document that does not exist at the time the AD is published. The Office of the Federal Register (OFR) regulations for approval of materials "incorporated by reference" in rules require that service documents be submitted to the OFR for approval as "referenced material." An AD may reference only the specific service document that was submitted and approved by the OFR for

incorporation by reference. The individual commenter is correct that in order for operators to use later revisions of the referenced document (issued after the publication of the AD), either the FAA must revise the AD to reference the specific later revisions, or operators must request the approval of their use as an AMOC.

Request to Increase the Average Labor Rate

An individual commenter requested the FAA adjust the average labor rate to reflect the current economic burden. The individual stated that the average labor rate in the NPRM is too low.

The FAA disagrees. The FAA Office of Aviation Policy and Plans provides the labor rate of \$85 per work-hour for the FAA to use when estimating the labor costs of complying with AD requirements. The FAA did not change this final rule based on this comment.

Additional Change Made to this Final Rule

The FAA has revised the document citations for the service information required in this AD to adhere to OFR regulations for materials incorporated by reference.

Conclusion

These products have been approved by the aviation authority of another country and are approved for operation in the United States. Pursuant to the FAA's bilateral agreement with this State of Design Authority, it has notified the FAA of the unsafe condition described in the MCAI referenced above. The FAA reviewed the relevant data, considered the comments received, and determined that air safety requires adopting this AD as proposed. Accordingly, the FAA is issuing this AD to address the unsafe condition on these products. Except for the changes described previously, this AD is adopted as proposed in the NPRM. None of the changes will increase the economic burden on any operator.

Related Service Information under 1 CFR Part 51

The FAA reviewed the following service information, which contains the new life limit for certain MLG actuator bottom attachment bolts and new life limits for the rudder

bellcrank. These documents are distinct because they apply to different airplane models; the different revision levels include editorial updates.

- PC-12, PC-12/45, PC-12/47 Structural, Component and Miscellaneous Limitations – AMM Document No. 02049 - Airworthiness Limitations, Document Module Code 12-A-04-00-00-00A-000A-A, of the Pilatus Model type - PC-12, PC-12/45, PC-12/47 MSN-101-888 Aircraft Maintenance Manual Document No. 02049, Revision 41, dated July 16, 2021.

- PC-12, PC-12/45, PC-12/47 Structural, Component and Miscellaneous Limitations – AMM Document No. 02049 - Airworthiness Limitations, Document Module Code 12-A-04-00-00-00A-000A-A, of the Pilatus Model type - PC-12, PC-12/45, PC-12/47 MSN-101-888 Aircraft Maintenance Manual Document No. 02049, Revision 42, dated December 10, 2021.

- PC-12/47E Structural, Component and Miscellaneous Limitations – AMM Document No. 2300 - Airworthiness Limitations, Document Module Code 12-B-04-00-00-00A-000A-A, of the Pilatus Model type - PC-12/47E MSN-545/1001-1719 and 1721-1942 Aircraft Maintenance Manual Document No. 02300, Revision 25, dated July 16, 2021.

- PC-12/47E Structural, Component and Miscellaneous Limitations – AMM Document No. 2300 - Airworthiness Limitations, Document Module Code 12-B-04-00-00-00A-000A-A, of the Pilatus Model type - PC-12/47E MSN-1001-1942 (except MSN 1720) Aircraft Maintenance Manual Document No. 02300, Revision 26, dated December 10, 2021.

- PC-12/47E Structural, Component and Miscellaneous Limitations – AMM Document No. 02436 - Airworthiness Limitations, Document Module Code 12-C-04-00-00-00A-000A-A, of the Pilatus Model type - PC-12/47E MSN 1720, 2001-Up Aircraft Maintenance Manual Document No. 02436, Revision 03, dated July 16, 2021.

- PC-12/47E Structural, Component and Miscellaneous Limitations – AMM Document No. 02436 - Airworthiness Limitations, Document Module Code 12-C-04-00-00-00A-000A-A, of the Pilatus Model type - PC-12/47E MSN 1720, 2001-Up Aircraft Maintenance Manual Document No. 02436, Revision 04, dated December 10, 2021.

This service information is reasonably available because the interested parties have access to it through their normal course of business or by the means identified in the ADDRESSES section.

Costs of Compliance

The FAA estimates that this AD affects 1,030 airplanes of U.S. registry. The FAA also estimates that it will take 1 work-hour per airplane to incorporate the revised ALS into the AMM or ICA. The average labor rate is \$85 per work-hour. Based on these figures, the FAA estimates the cost on U.S. operators to be \$87,550 or \$85 per airplane.

In addition, the FAA estimates that replacing a MLG actuator bottom attachment bolt, if necessary, will take 1 work-hour and will require parts costing \$2,140 for a cost of \$2,225 per airplane.

Replacing the rudder bellcrank, if necessary, will take 3 work-hours and will require parts costing \$550 for a cost of \$805 per airplane.

Authority for this Rulemaking

Title 49 of the United States Code specifies the FAA's authority to issue rules on aviation safety. Subtitle I, section 106, describes the authority of the FAA Administrator. Subtitle VII, Aviation Programs, describes in more detail the scope of the Agency's authority.

The FAA is issuing this rulemaking under the authority described in Subtitle VII, Part A, Subpart III, Section 44701, General requirements. Under that section, Congress charges the FAA with promoting safe flight of civil aircraft in air commerce by prescribing regulations for practices, methods, and procedures the Administrator finds necessary for safety in air commerce. This regulation is within the scope of that authority because it addresses an unsafe condition that is likely to exist or develop on products identified in this rulemaking action.

Regulatory Findings

The FAA has determined that this AD will not have federalism implications under Executive Order 13132. This AD will not have a substantial direct effect on the States, on

the relationship between the national government and the States, or on the distribution of power and responsibilities among the various levels of government.

For the reasons discussed above, I certify that this AD:

(1) Is not a “significant regulatory action” under Executive Order 12866,

(2) Will not affect intrastate aviation in Alaska, and

(3) Will not have a significant economic impact, positive or negative, on a substantial number of small entities under the criteria of the Regulatory Flexibility Act.

List of Subjects in 14 CFR Part 39

Air transportation, Aircraft, Aviation safety, Incorporation by reference, Safety.

The Amendment

Accordingly, under the authority delegated to me by the Administrator, the FAA amends 14 CFR part 39 as follows:

PART 39 - AIRWORTHINESS DIRECTIVES

1. The authority citation for part 39 continues to read as follows:

Authority: 49 U.S.C. 106(g), 40113, 44701.

§ 39.13 [Amended]

2. The FAA amends § 39.13 by:

a. Removing Airworthiness Directive 2016-26-08, Amendment 39-18766 (82 FR 1172, January 5, 2017; corrected February 16, 2017, 82 FR 10859); and

b. Adding the following new airworthiness directive:

2022-19-03 Pilatus Aircraft Ltd.: Amendment 39-22172; Docket No. FAA-2022-0153; Project Identifier MCAI-2021-01051-A.

(a) Effective Date

This airworthiness directive (AD) is effective [INSERT DATE 35 DAYS AFTER DATE OF PUBLICATION IN THE FEDERAL REGISTER].

(b) Affected ADs

This AD replaces AD 2016-26-08, Amendment 39-18766 (82 FR 1172, January 5, 2017; corrected February 16, 2017, 82 FR 10859).

(c) Applicability

This AD applies to Pilatus Aircraft Ltd. Model PC-12, PC-12/45, PC-12/47, and PC-12/47E airplanes, all serial numbers, certificated in any category.

(d) Subject

Joint Aircraft System Component (JASC) Code 2722, Rudder Actuator; 3210, Main Landing Gear; and 3211, Main Landing Gear Attach Section.

(e) Unsafe Condition

This AD was prompted by mandatory continuing airworthiness information (MCAI) originated by an aviation authority of another country to identify and correct an unsafe condition on an aviation product. The unsafe condition in the MCAI is failure of main landing gear (MLG) actuator bottom attachment bolts and failure to accomplish a new life limit for the rudder bellcrank. The FAA is issuing this AD to prevent MLG collapse during all phases of airplane operations, including take-off and landing and also to prevent rudder bellcrank failure, which could lead to loss of airplane control.

(f) Actions and Compliance

(1) Before further flight, unless already done, revise the Airworthiness Limitations section of the existing airplane maintenance manual (AMM) or Instructions for Continued Airworthiness for your airplane by incorporating the following documents.

(i) For Model PC-12, PC-12/45, and PC-12/47 airplanes: PC-12, PC-12/45, PC-12/47 Structural, Component and Miscellaneous Limitations – AMM Document No. 02049 - Airworthiness Limitations, Document Module Code 12-A-04-00-00-00A-000A-A, of the Pilatus Model type - PC-12, PC-12/45, PC-12/47 MSN-101-888 Aircraft Maintenance Manual Document No. 02049, Revision 41, dated July 16, 2021; or PC-12, PC-12/45, PC-12/47 Structural, Component and Miscellaneous Limitations – AMM Document No. 02049 - Airworthiness Limitations, Document Module Code 12-A-04-00-00-00A-000A-A, of the Pilatus Model type - PC-12, PC-12/45, PC-12/47 MSN-101-888 Aircraft Maintenance Manual Document No. 02049, Revision 42, dated December 10, 2021.

(ii) For Model PC-12/47E airplanes with serial numbers 545, 1001 through 1719, and 1721 through 1999: PC-12/47E Structural, Component and Miscellaneous

Limitations – AMM Document No. 2300 - Airworthiness Limitations, Document Module Code 12-B-04-00-00-00A-000A-A, of the Pilatus Model type - PC-12/47E MSN-545/1001-1719 and 1721-1942 Aircraft Maintenance Manual Document No. 02300, Revision 25, dated July 16, 2021; or PC-12/47E Structural, Component and Miscellaneous Limitations – AMM Document No. 2300 - Airworthiness Limitations, Document Module Code 12-B-04-00-00-00A-000A-A, of the Pilatus Model type - PC-12/47E MSN-1001-1942 (except MSN 1720) Aircraft Maintenance Manual Document No. 02300, Revision 26, dated December 10, 2021.

(iii) For Model PC-12/47E airplanes with serial numbers 1720 and 2001 and larger: PC-12/47E Structural, Component and Miscellaneous Limitations – AMM Document No. 02436 - Airworthiness Limitations, Document Module Code 12-C-04-00-00-00A-000A-A, of the Pilatus Model type - PC-12/47E MSN 1720, 2001-Up Aircraft Maintenance Manual Document No. 02436, Revision 03, dated July 16, 2021; or PC-12/47E Structural, Component and Miscellaneous Limitations – AMM Document No. 02436 - Airworthiness Limitations, Document Module Code 12-C-04-00-00-00A-000A-A, of the Pilatus Model type - PC-12/47E MSN 1720, 2001-Up Aircraft Maintenance Manual Document No. 02436, Revision 04, dated December 10, 2021.

(2) The actions required by paragraph (f)(1) of this AD may be performed by the owner/operator (pilot) holding at least a private pilot certificate and must be entered into the aircraft records showing compliance with this AD in accordance with 14 CFR 43.9(a)(1) through (4), and 14 CFR 91.417(a)(2)(v). The record must be maintained as required by 14 CFR 91.417, 14 CFR 121.380, or 14 CFR 135.439.

(3) After revising the airworthiness limitations required by paragraph (f)(1) of this AD, no alternative life limits or inspection intervals may be used unless they are approved as provided in paragraph (g) of this AD.

(g) Alternative Methods of Compliance (AMOCs)

(1) The Manager, International Validation Branch, FAA, has the authority to approve AMOCs for this AD, if requested using the procedures found in 14 CFR 39.19. In accordance with 14 CFR 39.19, send your request to your principal inspector or local Flight Standards District Office, as appropriate. If sending information directly to the

manager of the certification office, send it to the attention of the person identified in paragraph (h)(1) of this AD and email to: 9-AVS-AIR-730-AMOC@faa.gov.

(2) Before using any approved AMOC, notify your appropriate principal inspector, or lacking a principal inspector, the manager of the local flight standards district office/certificate holding district office.

(h) Related Information

(1) For more information about this AD, contact Doug Rudolph, Aviation Safety Engineer, General Aviation & Rotorcraft Section, International Validation Branch, 901 Locust, Room 301, Kansas City, MO 64106; phone: (816) 329-4059; email: doug.rudolph@faa.gov.

(2) Refer to MCAI European Union Aviation Safety Agency (EASA) AD 2021-0214, dated September 17, 2021, for more information. You may view the EASA AD at regulations.gov in Docket No. FAA-2022-0153.

(i) Material Incorporated by Reference

(1) The Director of the Federal Register approved the incorporation by reference of the service information listed in this paragraph under 5 U.S.C. 552(a) and 1 CFR part 51.

(2) You must use this service information as applicable to do the actions required by this AD, unless the AD specifies otherwise.

(i) PC-12, PC-12/45, PC-12/47 Structural, Component and Miscellaneous Limitations – AMM Document No. 02049 - Airworthiness Limitations, Document Module Code 12-A-04-00-00-00A-000A-A, of the Pilatus Model type - PC-12, PC-12/45, PC-12/47 MSN-101-888 Aircraft Maintenance Manual Document No. 02049, Revision 41, dated July 16, 2021.

(ii) PC-12, PC-12/45, PC-12/47 Structural, Component and Miscellaneous Limitations – AMM Document No. 02049 - Airworthiness Limitations, Document Module Code 12-A-04-00-00-00A-000A-A, of the Pilatus Model type - PC-12, PC-12/45, PC-12/47 MSN-101-888 Aircraft Maintenance Manual Document No. 02049, Revision 42, dated December 10, 2021.

(iii) PC-12/47E Structural, Component and Miscellaneous Limitations – AMM Document No. 2300 - Airworthiness Limitations, Document Module Code 12-B-04-00-00-00A-000A-A, of the Pilatus Model type - PC-12/47E MSN-545/1001-1719 and 1721-1942 Aircraft Maintenance Manual Document No. 02300, Revision 25, dated July 16, 2021.

(iv) PC-12/47E Structural, Component and Miscellaneous Limitations – AMM Document No. 2300 - Airworthiness Limitations, Document Module Code 12-B-04-00-00-00A-000A-A, of the Pilatus Model type - PC-12/47E MSN-1001-1942 (except MSN 1720) Aircraft Maintenance Manual Document No. 02300, Revision 26, dated December 10, 2021.

(v) PC-12/47E Structural, Component and Miscellaneous Limitations – AMM Document No. 02436 - Airworthiness Limitations, Document Module Code 12-C-04-00-00-00A-000A-A, of the Pilatus Model type - PC-12/47E MSN 1720, 2001-Up Aircraft Maintenance Manual Document No. 02436, Revision 03, dated July 16, 2021.

(vi) PC-12/47E Structural, Component and Miscellaneous Limitations – AMM Document No. 02436 - Airworthiness Limitations, Document Module Code 12-C-04-00-00-00A-000A-A, of the Pilatus Model type - PC-12/47E MSN 1720, 2001-Up Aircraft Maintenance Manual Document No. 02436, Revision 04, dated December 10, 2021.

(3) For service information identified in this AD, contact Pilatus Aircraft Ltd., CH-6371, Stans, Switzerland; phone: +41848247365; email: techsupport.ch@pilatus-aircraft.com; website: pilatus-aircraft.com/.

(4) You may view this service information at the FAA, Airworthiness Products Section, Operational Safety Branch, 901 Locust, Kansas City, MO 64106. For information on the availability of this material at the FAA, call (817) 222-5110.

(5) You may view this service information that is incorporated by reference at the National Archives and Records Administration (NARA). For information on the availability of this material at NARA, email: fr.inspection@nara.gov, or go to: www.archives.gov/federal-register/cfr/ibr-locations.html.

Issued on August 31, 2022.

Christina Underwood, Acting Director,
Compliance & Airworthiness Division,
Aircraft Certification Service.

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